

Listing of Claims:

1. (Currently Amended) A method of fabricating a liquid crystal display device including a thin film transistor formed at an intersection between a gate line and a data line, and a pixel electrode connected to a source electrode of the thin film transistor and overlapped with at least one of the gate line and the data line with having an organic insulating film therebetween, said method comprising:

forming the thin film transistor, the gate line and the data line on a transparent substrate;

forming the organic insulating film on the transparent substrate to a thickness of between $0.8\mu\text{m}$ and $1.5\mu\text{m}$, the organic insulating film ~~being provided on the data line~~; and

forming the pixel electrode on the organic insulating film so as to be overlapped, by a predetermined area, with at least one of the gate line and the data line, to optimally prevent light leakage between the pixel electrode and the at least one of the gate line and the data line, wherein an optimal prevention of light leakage uses a minimal overlapping area for the predetermined area.

2. (Original) The method according to claim 1, wherein a thickness of the organic insulating film provided between the pixel electrode and at least one of the gate line and the data line is less than $1.3\mu\text{m}$.

3. (Original) The method according to claim 1, wherein a dielectric constant of the organic insulating film is less than 3.0.

4. (Original) The method according to claim 3, wherein the organic insulating film is made from Benzocyclobutene.

5. (Original) The method according to claim 1, wherein a parasitic capacitance in an overlapping area where the pixel electrode is overlapped with said at least one of the gate line and the data line is less than 0.0003pF.

6. (Original) The method according to claim 1, wherein a width of an overlapping area at which the pixel electrode is overlapped with said at least one of the gate line and the data line is greater than 1.5 μ m.

7. (Currently Amended) A liquid crystal display device, comprising:
a data line on a substrate;
a gate line on the substrate;
a thin film transistor formed at an intersection of the gate line and the data line on the substrate;
an organic insulating film formed on the thin film transistor, the gate line, and the data line to a thickness of between 0.8 μ m and 1.5 μ m; and
a pixel electrode formed on the organic insulating film and connected to a source electrode of the thin film transistor, said pixel electrode overlapping ~~at least one of the gate line and the data line~~, wherein a parasitic capacitance in an overlapping area between the pixel electrode and the data line is different from a parasitic capacitance in an overlapping area between the pixel electrode and the gate line.

8. (Original) The thin film transistor of claim 7, wherein the organic insulating film has a dielectric constant of less than 3.0.

9. (Original) The liquid crystal display device according to claim 8, wherein the organic insulating film is made from Benzocyclobutene.

10. (Original) The liquid crystal display device according to claim 7, wherein the thickness of the organic insulating film is less than $1.3\mu\text{m}$.

11. (Original) The liquid crystal display device according to claim 10, wherein the thickness of the organic insulating film is between $1.25\mu\text{m}$ and $1.27\mu\text{m}$.

12. (Currently Amended) The liquid crystal display device according to claim 7, wherein a parasitic capacitance in an overlap area where the pixel electrode overlaps said at least one of the gate line and the data line is less than 0.0003pF .

13. (Currently Amended) A liquid crystal display device including a thin film transistor formed at an intersection between a gate line and a data line, and a pixel electrode connected to a source electrode of the thin film transistor and overlapped with at least one of the gate line and the data line with having an organic insulating film therebetween ~~and being provided on the data line~~, wherein a thickness and a dielectric constant of the organic insulating film are selected such that a signal delay is less than $10\mu\text{sec}$ for each of the gate

lines and the data line, wherein the thickness and the dielectric constant of the organic insulating film are selected such that a liquid crystal pixel cell driven with the pixel electrode charges to a voltage which is more than 95% of a video data voltage within ½ of an enabling interval of a control signal that is applied to a gate electrode for defining a channel of the thin film transistor.

Claim 14 (Canceled).

15. (Original) The liquid crystal display device according to claim 13, wherein the thickness of the organic insulating film is less than $1.5\mu\text{m}$.

16. (Original) The liquid crystal display device according to claim 13, wherein the thickness of the organic insulating film is between $0.8\mu\text{m}$ and $1.5\mu\text{m}$.

17. (Original) The liquid crystal display device according to claim 13, wherein the thickness of the organic insulating film provided between at least one of the gate line and the data line and the pixel electrode is less than $1.3\mu\text{m}$.

18. (Original) The liquid crystal display device according to claim 13, wherein the thickness of the organic insulating film provided between said at least one of the gate line and the data line and the pixel electrode is 1.25 to $1.27\mu\text{m}$.

19. (Previously Presented) The liquid crystal display device according to claim 13, wherein the dielectric constant of the organic insulating film is less than 3.0.

20. (Original) The liquid crystal display device according to claim 19, wherein the organic insulating film is made from Benzocyclobutene.

21. (Original) The liquid crystal display device according to claim 13, wherein a parasitic capacitance in an overlap area where the pixel electrode is overlapped with said at least one of the gate line and the data line is less than 0.0003pF.

22. (Currently Amended) A liquid crystal display device including a thin film transistor formed at an intersection between a gate line and a data line, and a pixel electrode connected to a source electrode of the thin film transistor and overlapped with at least one of the gate line and the data line with having an organic insulating film therebetween ~~and being provided on the data line, wherein a thickness of the organic insulating film is between 0.8 μ m and 1.5 μ m~~ wherein the thickness and the dielectric constant of the organic insulating film are selected such that a liquid crystal pixel cell driven with the pixel electrode charges to a voltage which is more than 95% of a video data voltage within 1/2 of an enabling interval of a control signal that is applied to a gate electrode for defining a channel of the thin film transistor.

23. (Original) The liquid crystal display device according to claim 22, wherein a dielectric constant of the organic insulating film is less than 3.0.

24. (New) The method of claim 1, wherein the thickness and the dielectric constant of the organic insulating film are selected such that a liquid crystal pixel cell driven with the pixel electrode charges to a voltage which is more than 95% of a video data voltage within $\frac{1}{2}$ of an enabling interval of a control signal that is applied to a gate electrode for defining a channel of the thin film transistor.

25. (New) The method according to claim 1, further comprising forming the pixel electrode on the organic insulating film so as to be overlapped with the gate line and the data line, wherein a parasitic capacitance in an overlapping area between the pixel electrode and the data line is different from a parasitic capacitance in an overlapping area between the pixel electrode and the gate line.

26. (New) The method according to claim 25, wherein a thickness of the organic insulating film provided between the pixel electrode and at least one of the gate line and the data line is less than $1.3\mu\text{m}$.

27. (New) The method according to claim 26, wherein a thickness of the organic insulating film provided between the pixel electrode and at least one of the gate line and the data line is between $1.25\mu\text{m}$ and $1.27\mu\text{m}$.

28. (New) The method according to claim 25, wherein a dielectric constant of the organic insulating film is less than 3.0.

29. (New) The method according to claim 28, wherein the organic insulating film is made from Benzocyclobutene.

30. (New) The method according to claim 25, wherein a parasitic capacitance in an overlapping area where the pixel electrode is overlapped with at least one of the gate line and the data line is less than 0.0003pF.

31. (New) The method according to claim 25, wherein a width of an overlapping area at which the pixel electrode is overlapped with at least one of the gate line and the data line is greater than $1.5\mu\text{m}$.

32. (New) The method of claim 25, wherein the thickness and the dielectric constant of the organic insulating film are selected such that a liquid crystal pixel cell driven with the pixel electrode charges to a voltage which is more than 95% of a video data voltage within $\frac{1}{2}$ of an enabling interval of a control signal that is applied to a gate electrode for defining a channel of the thin film transistor.

33. (New) The liquid crystal display device according to claim 13, wherein the liquid crystal pixel cell includes a cell having a largest signal delay.

34. (New) The liquid crystal display device according to claim 33, wherein the liquid crystal pixel cell is located at a lower right corner of the display device.

35. (New) The liquid crystal display device according to claim 13, wherein the pixel electrode is overlapped with the gate line and the data line, wherein a parasitic capacitance in an overlapping area between the pixel electrode and the data line is different from a parasitic capacitance in an overlapping area between the pixel electrode and the gate line.

36. (New) The liquid crystal display device according to claim 35, wherein the thickness of the organic insulating film is less than $1.5\mu\text{m}$.

37. (New) The liquid crystal display device according to claim 35, wherein the thickness of the organic insulating film is between $0.8\mu\text{m}$ and $1.5\mu\text{m}$.

38. (New) The liquid crystal display device according to claim 35, wherein the thickness of the organic insulating film provided between at least one of the gate line and the data line and the pixel electrode is less than $1.3\mu\text{m}$.

39. (New) The liquid crystal display device according to claim 35, wherein the thickness of the organic insulating film provided between said at least one of the gate line and the data line and the pixel electrode is 1.25 to $1.27\mu\text{m}$.

40. (New) The liquid crystal display device according to claim 35, wherein the dielectric constant of the organic insulating film is less than 3.0 .

41. (New) The liquid crystal display device according to claim 40, wherein the organic insulating film is made from Benzocyclobutene.

42. (New) The liquid crystal display device according to claim 35, wherein a parasitic capacitance in an overlap area where the pixel electrode is overlapped with said at least one of the gate line and the data line is less than 0.0003pF.

43. (New) The liquid crystal display device of claim 7, wherein the thickness and the dielectric constant of the organic insulating film are selected such that a liquid crystal pixel cell driven with the pixel electrode charges to a voltage which is more than 95% of a video data voltage within $\frac{1}{2}$ of an enabling interval of a control signal that is applied to a gate electrode for defining a channel of the thin film transistor.

44. (New) The liquid crystal display device according to claim 22, wherein a thickness of the organic insulating film is between $0.8\mu\text{m}$ and $1.5\mu\text{m}$.

45. (New) The liquid crystal display device according to claim 22, wherein a thickness of the organic insulating film provided between the pixel electrode and at least one of the gate line and the data line is between $1.25\mu\text{m}$ and $1.27\mu\text{m}$.

46. (New) The liquid crystal display device according to claim 22, wherein a thickness of the organic insulating film provided between the pixel electrode and at least one of the gate line and the data line is less than $1.3\mu\text{m}$.

47. (New) The liquid crystal display device according to claim 22, wherein the organic insulating film is made from Benzocyclobutene.

48. (New) The liquid crystal display device according to claim 22, wherein a parasitic capacitance in an overlapping area where the pixel electrode is overlapped with at least one of the gate line and the data line is less than 0.0003pF.

49. (New) The liquid crystal display device according to claim 22, wherein a width of an overlapping area at which the pixel electrode is overlapped with at least one of the gate line and the data line is greater than 1.5 μ m.

50. (New) The liquid crystal display device according to claim 22, wherein the liquid crystal pixel cell includes a cell having a largest signal delay.

51. (New) The liquid crystal display device according to claim 50, wherein the liquid crystal pixel cell is located at a lower right corner of the display device.

52. (New) The liquid crystal display device according to claim 22, wherein the pixel electrode is overlapped with the gate line and the data line, wherein a parasitic capacitance in an overlapping area between the pixel electrode and the data line is different from a parasitic capacitance in an overlapping area between the pixel electrode and the gate line.

53. (New) The liquid crystal display device according to claim 52, wherein a thickness of the organic insulating film is between $0.8\mu\text{m}$ and $1.5\mu\text{m}$.

54. (New) The liquid crystal display device according to claim 52, wherein a thickness of the organic insulating film provided between the pixel electrode and at least one of the gate line and the data line is between $1.25\mu\text{m}$ and $1.27\mu\text{m}$.

55. (New) The liquid crystal display device according to claim 52, wherein a thickness of the organic insulating film provided between the pixel electrode and at least one of the gate line and the data line is less than $1.3\mu\text{m}$.

56. (New) The liquid crystal display device according to claim 52, wherein the organic insulating film is made from Benzocyclobutene.

57. (New) The liquid crystal display device according to claim 52, wherein a parasitic capacitance in an overlapping area where the pixel electrode is overlapped with at least one of the gate line and the data line is less than 0.0003pF .

58. (New) The liquid crystal display device according to claim 52, wherein a width of an overlapping area at which the pixel electrode is overlapped with at least one of the gate line and the data line is greater than $1.5\mu\text{m}$.

Application No.: 09/689,599
Amendment dated February 25, 2004
Reply to Office Action dated August 26, 2003

Docket No.: 8733.167.00

59. (New) The liquid crystal display device according to claim 52, wherein the liquid crystal pixel cell includes a cell having a largest signal delay.

60. (New) The liquid crystal display device according to claim 59, wherein the liquid crystal pixel cell is located at a lower right corner of the display device.